# BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA



Order Instituting Rulemaking to Adopt Rules and Procedures Governing Commission-Regulated Natural Gas Pipelines and Facilities to Reduce Natural Gas Leakage Consistent with Senate Bill 1371.

Rulemaking 15-01-008 Filed January 15, 2015

REPLY COMMENTS OF ENVIRONMENTAL DEFENSE FUND ON THE ADMINISTRATIVE LAW JUDGE'S RULING ENTERING THE CPUC STAFF REPORT INTO THE RECORD AND THE CPUC STAFF REPORT "SURVEY OF NATURAL GAS LEAKAGE ABATEMENT BEST PRACTICES"

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#### I. Introduction

Pursuant to Rule 14.3 of the California Public Utilities Commission ("CPUC or the Commission") Rules of Practice and Procedure, the Environmental Defense Fund ("EDF") respectfully submits these reply comments to the comments on Administrative Law Judge's ("ALJ") ruling entering a CPUC staff report into the record for R. 15-01-008 and on the staff report itself, titled "Survey Of Natural Gas Leakage Abatement Best Practices." The ALJ ruling was issued on March 18, 2015, and comments were provided by EDF on April 1, 2015. These requested reply comments are provided to the CPUC by April 22, 2015.

## II. Discussion

#### A. Scope of the Proceeding

At the outset of this proceeding, the issue of proper scope was raised by several parties. In particular, some parties discussed in their comments how certain sources of emissions of natural gas within the transmission and distribution ("T&D") infrastructure referenced in the staff report should not be included in the overall emissions reduction strategy, arguing they are outside the scope of SB 1371 and this proceeding. For example, the Office of Ratepayer Advocates ("ORA") party argued "methane emitted during the course of purging, normal operation or maintenance and testing ... are not leaks in the gas system and are outside the scope of SB 1371;" Southwest Gas Corporation

<sup>&</sup>lt;sup>1</sup> ORA, Comments on SED Natural Gas Leakage Abatement, 5.

argues "that the goal of SB 1371 is to evaluate technologies and best practices for preventing and managing unintentional releases of gas;" and Southern California Gas Company ("SCG") and San Diego Gas and Electric ("SDG&E") argue that changing the definition of what is a leak is outside the scope of this rulemaking. At the crux of the first two arguments is the issue of whether methane emissions stemming from operation and maintenance of the T&D system, in addition to leaks, are covered within SB 1371, or whether only unintentional releases are covered. To answer this question, we look to the text of SB 1371, the overall legislative direction and common industry use of the term.

In the findings and declarations of SB 1371, the legislature states clearly that leak repair and prevention is important to the overall effort to achieve California's greenhouse gas ("GHG") goals.<sup>4</sup> By adding leak prevention in the up-front considerations of SB 1371, the legislation clearly intended to alert the CPUC to the need to utilize a broad scope proceeding, examining not only the practices utilities use to respond to leaks, but also practices used by utilities to prevent leaks in the first place, and the emissions implications of those practices. Such practices, including maintenance and operations activities necessary to ensure pipe integrity, were therefore called out explicitly in the SB 1371 preamble. The emissions implications of those practices should therefore be included in the SB 1371 proceeding.

SB 1371's operative text supports this conclusion. As shown in both the guidelines for goals and outcomes of the proceeding included in Article 3, §975(b)(2),<sup>5</sup> and the explicit direction

<sup>2</sup> Southwest Gas Corporation, Exhibit A, Southwest Gas Corporation Opening comments, 1.

<sup>&</sup>lt;sup>3</sup> See SCG & SDG&E, Opening Comments on Administrative Law Judge's Ruling Entering Staff Report Into Record and Seeking Comments, 2-3.

<sup>&</sup>lt;sup>4</sup> SECTION 1. The Legislature finds and declares all of the following:

<sup>(</sup>g) <u>Examining the methods</u> used by gas corporations under existing federal and state rules to conduct and schedule leak repair and <u>prevention</u> based on the implications of these practices <u>with respect to emissions</u> of greenhouse gases, in addition to safety, will enable a more thorough evaluation of whether existing practices are commensurate with California's goals for reducing emissions of greenhouse gases. (emphasis added)

<sup>5</sup> Article 3. Methane Leakage Abatement

<sup>975. (</sup>b) With priority given to safety, reliability, and affordability of service, the commission shall adopt rules and procedures governing the operation, maintenance, repair, and replacement of those commission-regulated gas pipeline facilities that are intrastate transmission and distribution lines, as described in paragraphs (1) and (2) of subdivision (a) of Section 950, to achieve both of the following:

<sup>2)</sup> While giving due consideration to the cost considerations of Section 977, <u>reduce emissions</u> of natural gas from those commission-regulated gas pipeline facilities that are intrastate transmission and distribution lines <u>to the maximum extent feasible</u> in order to advance the state's goals in reducing emissions of greenhouse gases pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code). (emphasis added)

of the proceeding included in §975(d) and (e), SB 1371 directed the CPUC to go beyond leak reduction practices and evaluate utility practices as a whole for their impact on GHG emissions from the transmission and distribution system.

As shown in §975(b) and 975(b)(2), SB 1371 explicitly called upon the Commission to adopt new rules on operation and maintenance practices to "reduce emissions" of GHGs to the maximum extent feasible. Contrary to the implied arguments of some commenters, the word "leak" is not elevated as the sole focus of this proceeding. Accordingly, while the CPUC proceeding should examine pipeline repair practices for the purpose of fixing leaks, that is certainly not the only focus of this proceeding.

Such a reading is also supported explicitly in §975 (e)(3),<sup>6</sup> the section stating specifically what must be included in this proceeding. §975 (e)(3) could not be clearer in saying that the proceeding must go beyond simple leak repair. Rather, by requiring evaluation of the operations and maintenance practices (in addition to repair and prevention), and requiring a determination of whether alternative practices may be more effective at achieving the goals of subdivision (b), §975 (e)(3) opens up the proceeding to a searching examination of utility operations for the purpose of overall emissions reductions – not just leak repair. This examination should include, for example, the equipment used by utilities to operate their system and utility practices such as intentional venting, and their effectiveness in controlling GHGs.

As noted, while some parties argue that SB1371 only applies to unintentional releases and leaks, and that equipment selection for system operation and intentional releases of gas is outside the scope of the proceeding - this constrained reading does not comport with the text of the law (especially in so far as equipment selection and intentional releases of gas are part of the operations, maintenance, repair or prevention practices of the utility). However, another reason exists that should yield an expansive reading of SB 1371: common usage of the term "leak." As noted in the 2014 ICF International consulting report referenced in the Staff Report, the term "leaks" is sometimes used to refer to all methane emissions from the oil and gas industry, although technical

<sup>&</sup>lt;sup>6</sup> (e) The rules and procedures adopted pursuant to subdivision (d) shall accomplish all of the following:

(3) Evaluate the operations, maintenance, and repair practices of those commission-regulated gas pipeline facilities that are intrastate transmission and distribution lines to determine whether existing practices are effective at reducing methane leaks and promoting public safety, consistent with Section 961, achieve the goals of subdivision (b), and whether alternative practices may be more effective at achieving the goals of subdivision (b).

distinctions can be drawn between fugitive (unintentional leaks) and vented emissions (intentional emissions).<sup>7</sup> SB 1371 does not explicitly or implicitly draw these technical differences, indicating the legislature's intent to adhere to the broad understanding of leaks as used in industry practice, which is consistent with the overall purpose of the Act. A narrow interpretation accordingly runs counter to the purpose of SB 1371.

SB 1371 has authorized the CPUC to address the goals of increasing pipeline safety and reducing methane emissions from both intentional and unintentional releases of natural gas. Ignoring intentional natural gas emissions would not satisfy the requirements of SB 1371, nor would it fully address the GHG emission reduction goals of AB 32.

## **B.** Leak Quantification

In several of the April 1, 2015 written submissions offered as comments on the CPUC staff report, and in oral comments delivered in-person at the April 6, 2015 public workshop, an argument was raised that requiring leak quantification was not necessary or relevant for the purposes of implementing SB 1371. EDF respectfully disagrees with this view as it disregards the provisions of SB 1371, is out of alignment with emerging best practices available to natural gas utilities, and is contrary to the overall public interest and cost-effectiveness criteria embedded in the law.

# 1. The case for leak quantification to develop required metrics for leak volume

§975(e)(5) clearly requires the use of practices and procedures to quantify leaks detected by utilities in California. In §975(e)(5), the requirement to develop and use metrics to "quantify the volume of emissions from leaking gas pipeline facilities, and for evaluating and tracking leaks" can be read as nothing else. Only by measuring leak rates from individual components to develop bottom-up estimates, while also calculating system-wide leak rates using traditional top-down

<sup>&</sup>lt;sup>7</sup> ICF International, Economic Analysis of Methane Emission Reduction Opportunities in the U.S. Onshore Oil and Natural Gas industries, 2-2 (March 2014).

<sup>&</sup>lt;sup>8</sup> See Comments of SCG and SDG&E at 16, (arguing that attention and resources should be focused on reducing time and costs for replacement and repair, instead of leak quantification); Southwest Gas Corporation Appendix A 2 (stating they do not know of any current technology that can be used to determine flow rate).

<sup>&</sup>lt;sup>9</sup> As specified in § 975(e)(4) and (e)(5), SB 1371 requires the Commission to:

<sup>&</sup>quot;(4) Establish and require the use of best practices for leak surveys, patrols, leak survey technology, leak prevention, and leak reduction..."

<sup>&</sup>quot;(5) Establish protocols and procedures for the development and use of metrics to quantify the volume of emissions from leaking gas pipeline facilities, and for evaluating and tracking leaks geographically and over time... The quantification of emissions shall provide operators, the commission, and the public with accurate information about the number and severity of leaks and about the quantity of natural gas that is emitted into the atmosphere over time."

practices can accurate inventories be derived. This approach is supported by a recent report released by ICF International consulting report on lost and unaccounted for fuel ("LUAF") and emissions.<sup>10</sup>

Furthermore, a plain reading of §975(e)(5) shows that metrics to quantify gas from individual leaking components should be used – how else could an accurate evaluation of leaks be performed? As suggested by a wide range of studies, the leak rate of an individual piece of equipment can vary widely, from just a small "fuzz" leak to a major gross emitter, meaning emissions factors cannot be applied accurately at the individual component level. In the Washington State Study, 50% of the measured emissions came from only three of the leaks sampled. Accordingly, the only way to develop an accurate metric under §975(e)(5) for evaluating leaks is to require quantification of the leak rate at the component level– a practice shown to be cost-effective and technologically feasible.

Of course, EDF agrees with the regulated parties that argue for eliminating the backlog of grade two and grade three leaks in California in a cost-effective manner and within a reasonable time period. However, as the studies indicate, quantification must be a part of the best practices to ensure that the largest leaks are prioritized for repair, while still taking into account resource limitations and safety priorities. Repairing all leaks will not be maximally cost effective unless leak repairs are prioritized using leak quantification technologies and practices. Also, considering that the Commission will incorporate costs into its determination of best practices (as identified above), there may be a de minimis threshold under which it is determined that a leak is too small and too costly to repair compared to the environmental benefit. Without utilizing a quantification method, regulated parties cannot accurately determine which leaks fall under that line, and will have to spend the enormous funds necessary to ensure there are no leaks, no matter how small, in the pipeline system.

## 2. The case for leak quantification within required best practices

Under §975(e)(4), the Commission shall require the use of "best practices" for "leak surveys" and "leak survey technology." Based on a review of definitions and common understanding, "best practice" refers to methods or techniques that have consistently shown results

<sup>&</sup>lt;sup>10</sup> Don Robinson, Hemant Mallya, & Matt Kelly, ICF International, Regulators Taking Aim at Methane Emissions: Does Anyone Know How Much Is Being Lost? 2-3 (2015).

 $<sup>^{11}</sup>$  Brian K. Lamb et al., Direct Measurements Show Decreasing Methane Emissions from Natural Gas Local Distribution Systems in the United States  $\,C\,(2015)$ .

superior to those achieved with other means. Furthermore, the term is known to not be static in time, but rather to evolve over time as new practices emerge and are proven out. Also, in the case of leak detection, as stated in the staff report, <sup>12</sup> there is no one single "best practice" standard – the context of the operator, business situation, geographic location, and cost are all relevant variables.

Based on a review of PHMSA documents and prior filings of California natural gas utilities, a "leak survey" is generally considered the practice of inspecting the natural gas system for leaks. <sup>13</sup> Thus, "leak survey technology" is the equipment used to accomplish that task.

Putting this all together, if it can be shown that, when taking into account context of the operator, the operator's business situation, the geographic location, and cost of various technologies and practices, there is a practice or technology that consistently shows results superior to those achieved with other means, that practice or technology should be found as a best practice and therefore required under SB 1371 §975(e)(4).

As to the "context" of SB 1371 and natural gas operators in California, there is an urgent need to reduce GHGs associated with all sources in the state – including natural gas, a need specified in legislation such as AB 32 (2006), AB 1257 (2013), SB 605 (2014), and SB 1371 (2014). Furthermore, that need is balanced against the need to reduce GHG pollution in a manner that is maximally technologically feasible and cost effective. Additionally, with emerging science in the field of natural gas leak identification and characterization, there is a clear understanding that not all leaks in the natural gas system are equal – most are small, while some are very large – and it is the large leaks that contribute the most by volume to the overall leak rate of the system. This understanding was corroborated in the Washington State University Study that found that, across 230 sampled leaks, just three leaks were responsible for 50% of the total emissions. Accordingly, while the series of laws being pursued by the state can and should be read to require a focus on reducing all leaks in the natural system (to reduce GHG pollution), only by identifying the biggest leaks and their relative size, can utilities prioritize repairs and effectively manage the overall costs of reducing leaks.

<sup>&</sup>lt;sup>12</sup> See Charles Magee, CPUC Safety and Enforcement Division, Survey of Natural Gas: Leakage Abatement Best Practices16(March 2015).

<sup>&</sup>lt;sup>13</sup> See generally Id. at 13.

<sup>&</sup>lt;sup>14</sup> Brian K. Lamb et al., DIRECT MEASUREMENTS SHOW DECREASING METHANE EMISSIONS FROM NATURAL GAS LOCAL DISTRIBUTION SYSTEMS IN THE UNITED STATES C (2015).

With regard to the "business situation" facing California utilities, leak quantification must be read to be within the set of best practices required under SB 1371. Not only are utilities embarking on a new way of doing business in managing their infrastructure (one that requires attention on the climate impact of leaks), they are potentially operating in a new environment of scrutiny over leakage performance as it relates to revenue they may take in relation to lost and unaccounted for gas LUAF. This revenue evaluation is part and parcel of the utility business situation as it equates to tens of millions of dollars per year collected from rate-payers.

Quantifying leaks also supports the accountability and transparency requirements of § 977. When the utilities are required to quantify their leaks and estimate total gas losses, intentional and unintentional, ratepayers have a better idea of what they are paying for. Current methods for estimating the leaked natural gas within LUAF are very imprecise. Many factors go into LUAF that affect its estimation. For example, utilities have previously reported negative LUAF values which would indicate that the system gained natural gas, which is physically impossible in a closed system, and that it had no emissions. Meter error in particular can have a huge impact on LUAF because fast or slow running meters can increase or decrease the total LUAF estimate, so that systems with large emissions have the same LUAF calculation as systems with very low emission rates. Again, quantifying leaks will increase transparency as to gas losses, and provide a more accurate emissions profile for environmental purposes.

Related to the "geographic location," and "cost" of leak quantification technology, several projects and studies, such as the Washington State University local distribution study and EDF's Google / Colorado State mobile mapping exercise, show that leak quantification technology and practices can be deployed rapidly and at low cost, enhancing the data derived from a system leak survey and delivering superior performance to simple leak detection.

## C. Confidentiality

At the April 6 workshop, some stakeholders raised the issue of confidentiality of historic leak data, reported by the regulated utilities to the commission on May 15, 2015. The Coalition of

<sup>&</sup>lt;sup>15</sup> §977. In order to achieve transparency and accountability for rate revenues and best value for ratepayers, and consistent with the commission's existing ratemaking procedures and authority to establish just and reasonable rates, the commission shall consider all of the following:

<sup>(</sup>b) Providing revenues for all activities identified and required pursuant to Section 975, including any adjustment of allowance for lost and unaccounted for gas related to actual leakage volumes.

16 DON ROBINSON, HEMANT MALLYA, & MATT KELLY, ICF International, REGULATORS TAKING AIM AT METHANE EMISSIONS: DOES ANYONE KNOW HOW MUCH IS BEING LOST? 2-3 (2015).

California Utility Employees ("CUE") and the Utility Workers Union of America ("UWUA") suggested that utility reporting with geographic precision can help the public and stakeholders become knowledgeable about variations in gas operations and leak occurrence. We support this idea and the notion that all data reported to the Commission on May 15, including precise leak location and any remedial action taken by the utility, should be immediately available to the public without any redaction or claim of confidentiality.

Such an interpretation is supported by a plain reading of §975(c), which requires utilities to report open leaks and their best estimate of gas loss due to leaks, thereby suggesting that the release of information relating to historic leaks (rather than just information for leaks in 2013) was contemplated by the legislature in SB 1371. The Preamble to SB 1371 and §975(e)(5) also make it clear that the very purpose of requiring the quantification of emissions was to provide the public with accurate information about leaks. §975(e)(5) states that the CPUC should "[e]stablish protocols and procedures for the development and use of metrics" ... to provide "the public with accurate information about the number and severity of leaks and about the quantity of natural gas that is emitted into the atmosphere over time."

In providing for public access to leak data, SB 1371 is consistent with California's overall legislative framework, which emphasizes public access to air pollution data. For example, the California Public Records Act ("CPRA") states that "[a]ll air or other pollution monitoring data, including data compiled from stationary sources, are public records." While the CPRA does exempt certain records from public disclosure, §6254.7(e) definitively recognizes the public's right to information about air pollution, and elevates air pollution emissions data to a special category of public records by stating that this right cannot be overridden by any other legal provision. §6254.7(e) states that "notwithstanding any other provision of law, all air pollution emission data, including those emission data which constitute trade secrets as defined in subdivision (d), are public records."

Of course, some may argue that methane emissions from the natural gas system do not constitute air pollution contemplated within public records requirements and the United States Clean Air Act. However, any plain understanding of methane, its climate relevance, its status as a regulated greenhouse gas pollutant within AB32 and SB1371, and the continued observation by the

<sup>&</sup>lt;sup>17</sup> CAL. GOV'T CODE §6254.7

courts<sup>18</sup> and the US EPA<sup>19</sup> that climate change pollution endangers human health and welfare can yield no other interpretation.

For these reasons, the information that will be provided by the utilities to the Commission on May 15, 2015 should be accessible by members of the public or useable by parties in public communications or analysis immediately upon disclosure to the CPUC, without the need to sign a confidentiality agreement.

## D. Information in the matrix

At the April 6 workshop, the issue of information to be reported to the Commission by regulated utilities on May 15, 2015 was raised and staff of the Commission recommended it be included in these comments.

As identified from post-accident investigations and utility industry documents, some factors are more prevalent than others in contributing to natural gas leaks. Several reports, including facts being investigated by the National Transportation Safety Board with regard to the tragic March 2014 Harlem explosion, indicate, for example, that leaks may be more prevalent where two pipes of dissimilar materials are joined. Similarly, service and condition of pipes are important risk factors. Because these factors should be considered when discussing best practices for leak surveys, leak detection, and pipe replacement, it is important to know how they match up with leaks on the California system. Accordingly, regulated parties should disclose any knowledge of factors contributing to leaks in the matrix.

In addition to reporting on factors that may contribute to leaks, in order to properly evaluate the information included in the matrix, and to inform the discussion of what future reporting requirements are necessary, the utilities should also each provide the methodology it employed and the datasets it queried in producing the information. Only by knowing how the information is collected by the utilities (i.e. what data sources were surveyed) will the CPUC and parties have sufficient confidence in the completeness and accuracy of the information provided. This information will also inform the discussion as to what records the utilities should be keeping for their future reporting requirements. EDF respectfully requests that the CPUC direct the reporting parties to include their methodology for finding the data.

<sup>19</sup> Overview of Greenhouse Gases, EPA.GOV, http://epa.gov/climatechange/ghgemissions/gases/ch4.html (last visited April 22, 2015).

<sup>&</sup>lt;sup>18</sup> Massachusetts v. E.P.A., 549 U.S. 497 (2007).

## E. Support for comments of the UWUA and CUE

CUE and UWUA make several points about pipeline maintenance and repair and the need for an adequate, well trained workforce. Proper training and staffing of an effective workforce is critical to ensuring that this rulemaking is implemented effectively. Accordingly, we agree with this series of comments.

EDF also agrees with UWUA's point that this proceeding should consider how to best encourage utilities to invest in leak detection equipment and to continue to search for the best technology and practices in leak detection and prevention. This will be a critical part of the new regulatory regime especially if the utilities are rewarded for reducing leaks. There may be a reverse incentive to not invest in best practice because it would find more leaks that previously detectable. This rulemaking should discuss and find a way to address such negative incentives.

UWUA also highlights the need to develop emissions reporting requirements in this proceeding for utilities. We agree, noting that standard reporting requirements based on the need to address environmental concerns will enhance transparency, inform the public and ensure that the procedures implemented are successful.

## F. Support for the comments of regulated utilities and gas companies

One issue emphasized in the filings of the utilities in this proceeding is that of overall commitment to the safety of the gas system and to Californians that rely on it. Utilities argue that SB 1371 should not undermine system safety or their ability to respond to and prioritize leaks that present a safety threat. We agree wholeheartedly.

Notwithstanding this commitment to safety, relying on the clear language and intent of SB 1371, EDF argues that the overall safety of the system can be improved. Allowing large natural gas leaks simply because they are not classified as grade I safety hazards is not a safe practice for the public or the environment. If anything, quantifying leaks for the implementation of SB 1371 only furthers public safety by helping to identify the largest leaks in urban areas, it does not detract from it. Accordingly, implementation of SB 1371 can help improve the overall safety of the California natural gas system.

## **III.** Conclusion

Based on the above, EDF respectfully these reply comments to the Commission.

Respectfully signed and submitted on April 22, 2015.

## ENVIRONMENTAL DEFENSE FUND

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